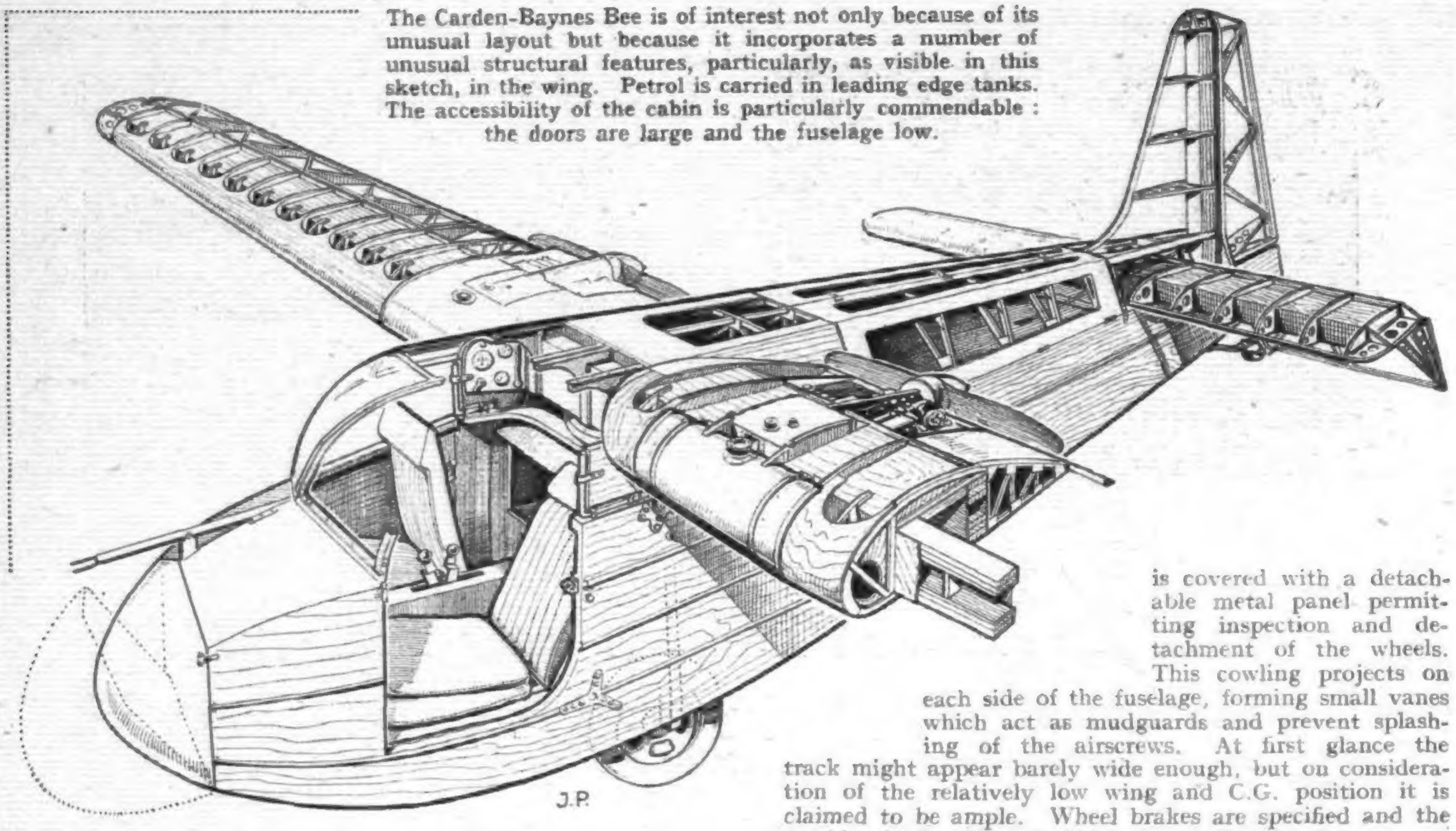


The Carden-Baynes Bee is of interest not only because of its unusual layout but because it incorporates a number of unusual structural features, particularly, as visible in this sketch, in the wing. Petrol is carried in leading edge tanks. The accessibility of the cabin is particularly commendable : the doors are large and the fuselage low.

cubic feet. Access is obtained by pulling forward the hinged backs of the seats, which, incidentally, are provided with recesses for parachutes. The usual complement of Smith's instruments is specified. Engine instruments are grouped on two small panels on each side of the cabin.

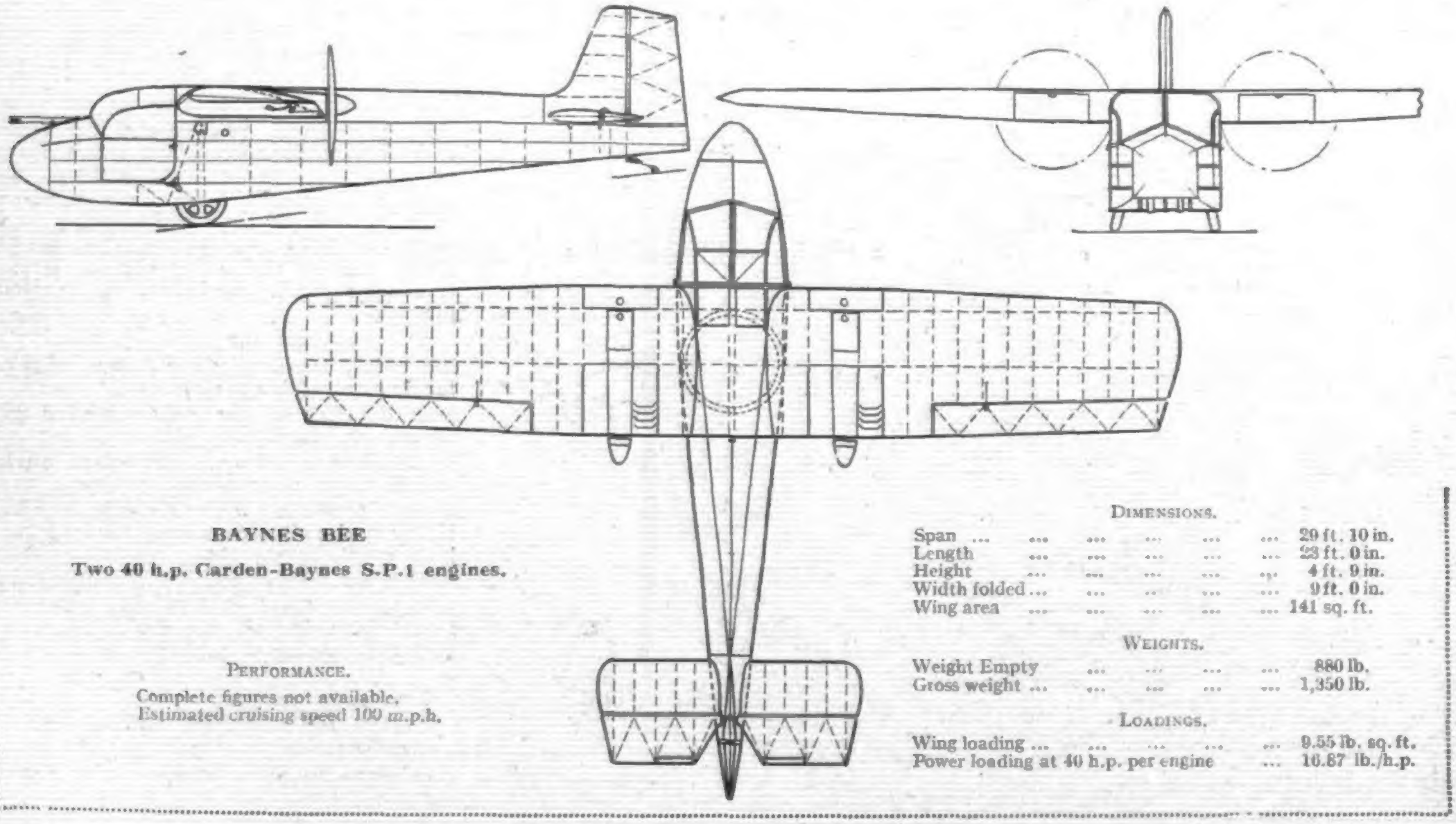
The control column is T-shaped, permitting dual control. One arm is detachable. A commendable feature is a central box structure between the seats containing the aileron control shaft, wires, dual throttle controls and the wheel operating the elevator trimming tabs.

The design of the undercarriage is another feature of unusual interest. Two cantilever oleo legs are attached internally to the fuselage sides, half the Dunlop wheels (which have a marked "toeing-out") projecting through the bottom of the fuselage. In the vicinity of the undercarriage the bottom of the fuselage is covered with a detachable metal panel permitting inspection and detachment of the wheels. This cowling projects on each side of the fuselage, forming small vanes which act as mudguards and prevent splashing of the airscrews. At first glance the track might appear barely wide enough, but on consideration of the relatively low wing and C.G. position it is claimed to be ample. Wheel brakes are specified and the tracking leaf-spring tail skid has a small roller shoe.

The two Carden-Baynes S.P.1 water-cooled four-cylinder engines are of a new type, giving, with the assistance of Centric blowers running at 1.1 times engine speed, 40 h.p. at 3,500 r.p.m. The mountings are steel girder structures with sandwich plates between the cylinder block and sump casting, there being appropriate lugs for attachment to the spar, from which the whole unit is cantilevered. The engines and radiators (which lie alongside) are entirely submerged in the wing, cowling panels being hinged to the rear of the wing spar. The extension shafts for the airscrews are integral with the engines.

The air inlets for cooling are below the wing with the outlets above. Air is induced by the difference in pressure on the top and bottom surfaces of the wing and the suction of the airscrews. This arrangement, it is claimed, tends to give constant cooling.

Ten gallons of fuel are carried in leading edge tanks.



BAYNES BEE

Two 40 h.p. Carden-Baynes S.P.1 engines.

PERFORMANCE.

Complete figures not available.
Estimated cruising speed 100 m.p.h.

DIMENSIONS.

Span	29 ft. 10 in.
Length	23 ft. 0 in.
Height	4 ft. 9 in.
Width folded	9 ft. 0 in.
Wing area	141 sq. ft.

WEIGHTS.

Weight Empty	880 lb.
Gross weight	1,350 lb.

LOADINGS.

Wing loading	9.55 lb. sq. ft.
Power loading at 40 h.p. per engine ...	16.87 lb./h.p.